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ABSTRACT

The National Center for Education Statistics (NCES) projects that total elementary and secondary school enrollment will be 45.6 million in fall 1989. There were an estimated 45.4 million students enrolled in 1988. Enrollment in kindergarten through grade 8 is expected to increase from 32.4 million in 1988 to 32.9 million in 1989, an increase of 1.5 percent. In contrast, enrollment in grades 9-12 will continue to decline. This number is expected to decrease from 13.0 million in 1988 to 12.7 million in 1989, a drop of 2.6 percent. During the 1989 to 1993 period, elementary enrollment is expected to rise steadily, while secondary enrollment is expected to reverse its decline midway through the period. Increases are projected for both public and private schools. Technical notes discuss the methodology, forecast accuracy, and sources of data of this targeted forecast; an address where further information may be obtained is noted. (MLF)

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NATIONAL CENTER FOR EDUCATION STATISTICS

Targeted Forecast

April 1989

Elementary and Secondary Enrollment: Fall 1987 to Fall 1993

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Data Series:
TF-89-4.2

1989 Elementary and Secondary Enrollment

The National Center for Education Statistics (NCES) projects that total elementary and secondary enrollment will be 45.6 million in fall 1989. There were an estimated 45.4 million students enrolled in 1988.

Enrollment in kindergarten (K) through grade 8 is expected to increase from 32.4 million in 1988 to 32.9 million in 1989, an increase of 1.5 percent. In contrast, enrollment in grades 9-12 will continue to decline. This number is expected to decrease from 13.0 million in 1988 to 12.7 million in 1989, a drop of 2.6 percent.

Enrollment in public schools is projected to be 40.3 million in 1989. Private school enrollment is expected to be about 5.3 million in 1989.

5-Year Outlook

In the next 5 years (1989 through 1993), total fall enrollment in elementary and secondary schools is projected to rise from 45.6 million in 1989 to 48.0 million in 1993. Annual increases during this period reflect the growth in the 5- to 17-year-old population.

During the 1989 to 1993 period, elementary enrollment is expected to rise steadily, while secondary enrollment is expected to reverse its decline midway through the period. Enrollment in grades K-8 is projected to increase from 32.9 million in 1989 to 34.8 million in 1993, an increase of 5.7 percent.

Enrollment in grades 9-12 is projected to decrease from 12.7 million in 1989 to 12.6 million in 1990. This trend is expected to reverse in 1991 and climb to 13.2 million in 1993, an increase of 5.1 percent from 1990.

Increases are projected for both public and private schools. Public school enrollment is projected to increase from 40.3 million in 1989 to 42.5 million in 1993, while private school enrollment is expected to rise from 5.3 million to 5.6 million over the same period.

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Office of Educational Research and Improvement **CS 89-645**

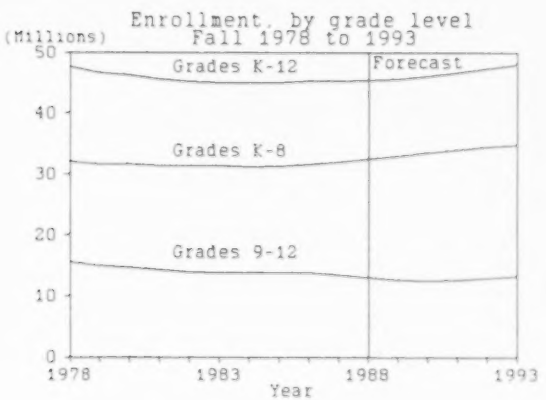
Forecast

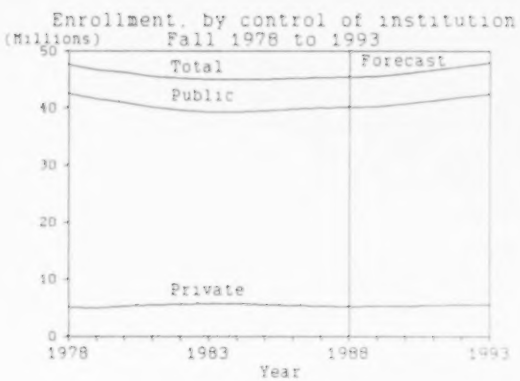
Elementary and secondary school enrollment, by control of institution and grade level, with forecasts: Fall 1987 to fall 1993
(In thousands)

Status of data	Year	All schools			Public schools			Private schools		
		K-12*	K-8*	9-12	K-12*	K-8*	9-12	K-12	K-8	9-12
	1987	45,371	32,004	13,367	40,024	27,886	12,138	5,347	4,118	1,229
Estimate	1988	45,438	32,426	13,012	40,196	28,390	11,806	5,241	4,036	1,206
Forecast	1989	45,595	32,915	12,680	40,323	28,818	11,505	5,272	4,097	1,175
	1990	46,112	33,549	12,563	40,772	29,373	11,399	5,340	4,176	1,164
	1991	46,718	34,040	12,678	41,306	29,803	11,503	5,412	4,237	1,175
	1992	47,369	34,481	12,889	41,883	30,189	11,694	5,486	4,292	1,195
	1993	48,011	34,805	13,206	42,455	30,473	11,982	5,556	4,332	1,224

*Includes most kindergarten and some nursery school enrollment.

NOTE: For 1987, public school figures are from the Common Core of Data universe survey, and private school figures are sample estimates based on the Schools and Staffing Survey. The total for all schools is the sum of the data for public and private schools. The forecasts were prepared January 1989. Details may not add to totals due to rounding.





Technical Notes

Methodology

Public

Projections of enrollment in public elementary and secondary grades 2 through 12 are based on a grade retention method. This method starts with 6-year-olds entering the first grade and follows their subsequent progress through public elementary and secondary schools. The method assumes that past trends in factors affecting enrollments will continue over the projection period. The method implicitly includes the net effect of such variables as immigration, dropouts, transfers to and from private schools, and deaths. Kindergarten, first grade, elementary and secondary ungraded, and postgraduate enrollments are projected on the basis of enrollment rates using populations of 5-, 6-, 5- to 13-, 14- to 17-, and 18-year-olds as the bases.

Both public grade retention rates and public enrollment rates by age are projected to remain constant at levels consistent with most recent rates.

Private

Projections of private school enrollment are derived in the following manner. For 1988, the ratio of private school enrollment to public school enrollment is calculated by grade level. These 1988 ratios are held constant over the projection period. These ratios are then applied to projections of public school enrollment by grade level to yield projections of private school enrollment. This method assumes that the future pattern in the trend of private

school enrollment will be the same as in public school enrollment. The reader should be aware that a number of factors could alter the assumption of constant ratios over the projection period. Because of the lack of consistent data on private school enrollment, it was assumed that the 1988 ratios would remain constant over time.

These enrollment forecasts are demographically based. NCES chose to use the Bureau of the Census middle series population projections. The middle series (series 14) projections assume an ultimate completed cohort fertility rate of 1.8 births per woman by the year 2050 and a net annual immigration of 600,000 through 1988. Then, net annual immigration decreases 10,000 every year to 500,000 by 1998 and remains constant thereafter.

Percent changes were calculated using unrounded numbers.

To measure projection reliability, lower and upper confidence limits are presented for projections of public and private school enrollments. For example, in 1990, it is 95 percent sure that public school enrollment (40.8 million) will lie between 40.5 million and 41.0 million.

Elementary and secondary school enrollment, by control of institution and lower and upper 95 percent confidence limits: Fall 1989 to fall 1993

(In thousands)

	Public		Private	
Year	Lower	Upper	Lower	Upper
1989	40,065	40,581	5,078	5,466
1990	40,498	41,046	5,144	5,536
1991	41,017	41,595	5,213	5,611
1992	41,580	42,186	5,284	5,688
1993	42,139	42,771	5,351	5,761

For further details on the methods used to develop these forecasts, see *Projections of Education Statistics to 2000*, forthcoming.

Forecast Accuracy

The mean absolute percentage error (MAPE) was used to measure forecast accuracy. An analysis of projection errors (differences between actual and projected numbers) from the past editions of *Projections of Education Statistics* indicates that MAPEs for total enrollment in public elementary and secondary schools were 0.2 percent for 1 year ahead, 0.4 percent for 2 years ahead, and 0.8 percent for 5 years ahead. For the 1-year-ahead prediction, this means that one would expect the forecast to be within 0.2 percent of the actual value, on the average. For projections of public enrollment in grades K-8, the MAPEs were 0.3 percent for 1 year ahead, 0.6 percent for 2 years ahead, and 0.9 percent for 5 years ahead. MAPEs for public enrollment in grades 9 through 12 were 0.6, 0.8, and 2.0 percent, respectively.

Mean absolute percentage error, by grade level and lead time

	Lead time, in years				
Public enrollment	1	2	3	4	5
K-12	0.2	0.4	0.6	0.7	0.8
K-8	0.3	0.6	0.8	0.9	0.9
9-12	0.6	0.8	1.0	1.3	2.0

There are no consistent trend data available on private school enrollment at this time. NCES has now begun to conduct regular surveys of private schools. When trend data become available, a measure of forecast accuracy will also be provided for projections of private school enrollment.

Sources of Data

The enrollment data used in these forecasts were obtained from the Common Core of Data survey, *Early Estimates: Key Statistics for Public Elementary and Secondary Education: School Year 1988-89*, and *Early Estimates: Key Statistics for Private Elementary and Secondary Education: School Year 1988-89* conducted by the U.S. Department of Education, National Center for Education Statistics. Population data were obtained from *Current Population Reports*, "Estimates of the Population of the United States," (Series P-25) and unpublished tabulations by the U.S. Department of Commerce, Bureau of the Census.

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